Table of Contents

Table of Contents for Supporting Information

Executive Summary

This document is an Oregon/Washington Standards of Rangeland Health evaluation for Louse Canyon Geographic Management Area (LCGMA), Jordan Resource Area (JRA), Vale District, Bureau of Land Management (BLM). Resource conditions are described for nearly 523,000 acres of public land. The evaluation pertains to Louse Canyon, Campbell, Anderson, Star Valley Community, Quinn, and Little Owyhee BLM grazing allotments and is based on an interdisciplinary team (ID) field assessment conducted during the summer of 2000.

Field data gathered support the following general observations about LCGMA:

- With some localized exceptions, native uplands support healthy, diverse plant communities that have been grazed at conservative stocking levels and at times of the year that allow for rangeland processes to function properly. Water sources for livestock grazing administration are limited in both distribution and abundance for much of the unit.

- Soil compaction resulting from historic grazing use near former homestead areas is probably still influencing the productivity of lower elevation rangelands. Evidence of accelerated soil erosion is generally absent in upland areas.

- Riparian and wetland habitats that have been grazed during summer and fall (hot season) for the last several decades are in need of grazing season adjustments in order to attain range health standards. Most riparian and wetland areas with perennial water sources are Functioning at Risk, and accelerated erosion is ongoing in certain stream reaches. Key vegetation components necessary to support proper functioning riparian systems are still present in most areas

- Seedings and brush control projects have influenced about 43,000 acres (approximately 8%) of LCGMA. Starvation Seeding is the only monotypic (pure grassland habitat with little or no shrub cover) rangeland type present. Substantial sagebrush recolonization has taken place in most treatment areas.

- More than 96% of all sagebrush steppe communities are complex shrubland habitat types capable of supporting greater sage-grouse and other animals that use sagebrush habitats. Habitat connectivity is excellent and fragmentation from fires and other historic treatments is proportionally low.

- Bald eagles (winter residents) are the only federally listed vertebrate occupying LCGMA. There are no federal or state listed plants or invertebrates present.

- LCGMA currently supports few noxious and invasive upland plant species. Whitetop invasions are present on the main stem of the Owyhee River and along primary access roads at the present time.

Chapter 1 – Background

A. History and Process for Assessing Rangeland Health Standards

Subsequent to the approval of revised BLM grazing regulations in 1995, BLM State Directors were assigned the task of developing state level rangeland health standards (Title 43 Code of Federal Regulations [CFR] 4180.2). The process of developing standards and defining standard indicators was conducted in consultation with BLM Resource Advisory Councils (RAC's). The purpose for setting standards and identifying their indicators was to provide BLM with a rational basis for determining whether current management is meeting the Fundamentals of Rangeland Health as described under 43 CFR 4180.1. See Appendix A, Fundamentals of Rangeland Health, for a description of objectives and principles underlying rangeland health standards.

On August 12, 1997, Interior Secretary Bruce Babbitt approved the Oregon/Washington BLM Standards and Guides (S&G's) for Rangeland Health. BLM field offices in Oregon/Washington were subsequently directed to conduct assessments and then use that assessment information to craft range health evaluations in relation to the state standards. These sequential actions were therefore used to implement 43 CFR 4180.1 and .2.

In order to accomplish this assessment and evaluation workload and conform to the need for completing work on a watershed basis, Jordan Resource Area was divided into eight land based administrative units now referred to as Geographic Management Areas (GMA's) as shown in Map 1. Each GMA was assigned a boundary and a priority order for assessment based on resource issues such as riparian habitat, wilderness study areas, Wild and Scenic Rivers, wild horses, and presence of special status plants or animals. GMA boundaries correspond to grazing allotment boundaries and substantially overlap with defined watershed subunits. Based on multiple resource values and ongoing management issues needing resolution, the Louse Canyon GMA (LCGMA) was selected to be the first GMA to be assessed in Jordan Resource Area.

The boundary identification and assessment priority phase of this process was conducted with public review and comment as a key element of the Southeast Oregon Resource Management Plan (SEORMP) and Environmental Impact Statement (EIS). BLM's intent is to implement SEORMP objectives in concert with S&G evaluations.

The proposed assessment schedule and method of approach was reviewed and approved by the Southeast Oregon RAC on September 29, 1998. The sequence and location of GMA assessments has been described to the public in a BLM letter dated March 3, 1999 (shown in Appendix F of this evaluation).

GMA assessments and evaluations represent a continuation of Vale BLM management oversight that has been ongoing for decades. Past assessments and evaluations were referred to as "allotment evaluations".

B. BLM Obligations Prescribed Under Range Health Regulations

BLM regulations specify that "the authorized officer shall take appropriate action as soon as practicable but not later than the start of the next grazing year upon determining, through assessment or monitoring

by experienced professionals and interdisciplinary teams, that a standard is not being achieved and that livestock are a significant contributing factor to the failure to achieve the standards and conform with the guidelines" (USDI, BLM, Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands Administered by the Bureau of Land Management in the States of Oregon and Washington, 1997).

C. Interim Grazing Management Strategy

Within LCGMA, the Campbell, Louse Canyon Community, and Star Valley Community Allotments all had pastures that did not meet at least one rangeland health standard due to livestock impacts. Upon public disclosure of the resource conditions that were not meeting standards, the Jordan Resource Area interdisciplinary team and the affected permittees developed an interim grazing management strategy that was within the window of use dates allowed in existing permits. The agreed upon grazing schedules were implemented beginning in March, 2002 (Table 7, Interim Grazing Management Use Dates). Changes in grazing use were initiated to address resource problems in the short-term until such time that a long-term strategy could be drafted and approved.

The purpose of interim grazing management in most pastures was to address failure to meet Standard 2, Watershed Function—Riparian/Wetland Areas. Duration of hot season grazing was reduced 50% to 62% in order to allow herbaceous regrowth in wet areas after the grazing season. Numbers of livestock were not changed. In May 2002, photopoints and small exclosure cages were established at six riparian sites. Photographs and observations taken in Fall 2002, after one season of interim grazing, were compared to photographs of the same sites taken in Fall 2000 or 2001 before interim changes were implemented (see Appendix K, Interim Grazing Monitoring Photos). In general, the interim grazing schedule removed livestock from wetland areas early enough to allow regrowth of herbaceous vegetation to occur before the end of the growing season. However, gains in residual riparian cover by the end of the growing season were reduced by trespass livestock (primarily horses from the Fort McDermitt Reservation) and late season trailing. Interim grazing monitoring sites are listed below.

Pasture	Site	Previous Use Dates	Interim Use Dates
Horse Hill	Disaster Spring	8/1 – 10/30	4/01 – 7/15
Lower Louse Canyon	New Road Spring	4/15 – 10/31	4/15 – 7/15
Upper Louse Canyon	Bend Spring	4/15 – 10/31	3/16 – 8/01
Upper Louse Canyon	Deer Creek	4/15 – 10/31	3/16 – 8/01
South Tent Creek	Cairn Spring	6/01 – 9/30	6/01 – 7/15 9/05 – 9/20
South Tent Creek	Tent Creek below Cow Camp	6/01 – 9/30	6/01 – 7/15 9/05 – 9/20

D. Public Involvement

Consultation, cooperation, and coordination with both the interested public and grazing permittees are critical components of BLM's range health assessment and evaluation process. On numerous occasions, BLM has communicated with both groups on range health standards and GMA assessments, by way of mailed written materials, public meetings, and onsite visits within LCGMA.

BLM first disclosed the proposed sequence and methods for GMA evaluations to the public as part of the SEORMP scoping process, and therefore GMA evaluations were discussed often with the public prior to the LCGMA assessment. Refer to "Summary of key public involvement events", SEORMP, Volume 1, pages 668-669.

BLM conferred with Malheur County Court regarding the SEORMP on six occasions between January 1996 and April 1997, and sought the Court's input in public meetings in Vale before and after the LCGMA assessment. BLM consulted with tribal leaders of Fort McDermitt Indian Reservation in McDermitt, Nevada, before and after the assessment.

Routine livestock grazing permittee meetings were used as opportunities to further discuss and clarify any issues and concerns that surfaced during LCGMA assessment scoping or as a consequence of information discovered during the assessment. BLM accommodated a request made by Oregon Natural Desert Association (ONDA) and Committee for Idaho's High Deserts (CIHD) to hold some separate public meetings (where permittees would meet separately from environmentalist groups) to discuss their views and interpretations of the 2000 LCGMA assessment findings.

E. Chronology of LCGMA Public Meetings and Field Visits

Appendix F, Public Scoping Information, shows a complete record of LCGMA specific public notices, meeting dates, and attendees that are summarized briefly by date below.

March 3, 1999
BLM sent a letter to 659 individuals and entities (e.g. federal, state, and county government contacts, and environmental groups) announcing and explaining the process for implementation of new grazing regulations for rangeland health. The letter explained ties to the SEORMP and the sequential GMA process of prioritization, assessment, and evaluation.

October 21, 1999
Jordan Resource Area staff and Area Manager Jerry Taylor met with Katie Fite (CIHD) to review resource problems associated with LCGMA.

March 8, 2000
Jordan Valley range permittee meeting

June 26 and 27, 2000
Formal BLM Public Scoping Meetings were set for public land users to comment and identify issues needing resolution in range health assessments and evaluations. Meetings were held in Vale, OR, Jordan Valley, OR, and McDermitt, NV. Attendees included Bob Kindschy (citizen and member of Southeast

Oregon RAC), Wayne Bowers (Oregon Department of Fish and Wildlife), Connie Hottell, Larry Hottell, Ernie Hottell (citizens), and the following BLM permittees: Chris Bengoa, Bruce Easterday, Tom Pedroli, and John Albisu.

September 2000
BLM flew by helicopter with range permittees Cheryl Anderson, Kimball Wilkinson, and Chris Bengoa into selected riparian areas within Campbell and Louse Canyon Allotments to demonstrate and explain riparian Proper Functioning Condition (PFC) assessment protocols.

February 12, 2001
McDermitt range permittee meeting

May 30, 2001
Range permittee meeting in McDermitt and Jordan Valley to discuss information collected for the LCGMA assessment and evaluation.

May 30, 2001
Range user meeting to discuss range management issues of importance within LCGMA.

June 29, 2001
BLM issued a public news release announcing an opportunity to share and discuss information collected for the LCGMA assessment and evaluation. The meeting was temporarily postponed and did not occur until July 12 and 19, 2001.

July 12, 2001
BLM public meeting in Vale to discuss resource findings collected during the LCGMA assessment. Attendees included Russ Hursh (Malheur County Judge), Bob Moore (citizen and member of ONDA), and Jim Shake (citizen and member of ONDA).

July 17, 2001
Jordan Resource Area interdisciplinary team (ID) conducted a field tour of Proper Functioning Condition stream reach assessment determinations with National Riparian Team member Ronald Wiley.

July 19, 2001
BLM public meeting in Vale to discuss resource findings of the LCGMA assessment. Attendees included Bob Moore (citizen and member of ONDA), Jim Shake (citizen and member of ONDA), Gene Bray (citizen and member of Western Watersheds Project) and Katie Fite (citizen and member of CIHD).

October, 2001
BLM met and conferred with Fort McDermitt Indian Tribe at the Reservation to explain the 2000 LCGMA assessment findings and review methodologies used to determine range health conditions.

November 29, 2001
BLM conducted a meeting in Vale in which LCGMA assessment information was described to fish and wildlife agency representatives from U. S. Fish and Wildlife Service, Oregon Department of Fish and

Wildlife, and Oregon/Washington BLM State Office. Two representatives from the local Owyhee Watershed Council (Carl Hill and Jennifer Fenwick) also attended.

December 19 and 20, 2001
BLM conducted meetings with range permittees to formulate long and short term grazing system adjustments in LCGMA. Meetings were held in McDermitt and Jordan Valley.

February 20, 2002
McDermitt range permittee meeting

March 14, 2002
Jordan Valley range permittee meeting

April 23, 2002
BLM meeting in Vale was set to discuss actions and alternatives for issue resolution in the LCGMA evaluation.

October 16, 2002
BLM field tour for permittees and the interested public was conducted to evaluate the effectiveness and impacts of interim grazing management measures in LCGMA for the 2002 grazing season. Members of the interested public from ONDA and CIHD declined to attend a field meeting that included livestock permittees and asked for a separate tour meeting with BLM to review the findings. BLM denied a second separate field meeting due to time limitations and staff workloads.

January 27, 2003
McDermitt range permittee meeting

February 12, 2003
Jordan valley range permittee meeting

F. Oregon/Washington Rangeland Health Standards

This evaluation addresses five Oregon/Washington BLM Standards for Rangeland Health, shown below. Appendix B, OR/WA Standards and Indicators for Rangeland Health, reviews the environmental indicators that are considered when each rangeland health standard is assessed.

- *Standard 1* – Watershed Function – Uplands: upland soils exhibit infiltration and permeability rates, moisture storage, and stability that are appropriate to soil, climate, and landform.
- *Standard 2* – Watershed Function --Riparian/wetland areas: riparian-wetland areas are in properly functioning physical condition appropriate to soil, climate, and landform.
- *Standard 3* – Ecological Processes –Uplands: healthy, productive and diverse plant and animal populations and communities appropriate to soil, climate, and landform are supported by ecological processes of nutrient cycling, energy flow, and the hydrologic cycle.
- *Standard 4* – Water Quality: surface water and ground water quality, influenced by agency actions, complies with State water quality standards.

- *Standard 5* – Native, Threatened and Endangered (T&E), and Locally Important Species: habitats support healthy, productive, and diverse populations and communities of native plants and animals (including special status species and species of local importance) appropriate to soil, climate, and landform.

G. Adaptive, Ecosystem-Based Management

Appendix C, Ecosystem Management, and D, Adaptive Management, explain adaptive, ecosystem-based management as stated in the SEORMP. Both appendices should be read to gain an understanding of how different scales of assessment and management are intended to be carried out over time in Malheur and Jordan Resource Areas of Vale District. Criteria described in Appendix C and D apply to this evaluation.

H. Assessment and Evaluation Criteria

BLM used a variety of information sources and the professional judgment of senior staff specialists to conduct upland and riparian health assessments. The best available rangeland vegetation and soils maps were consulted and agency-approved technical references and methodology, including protocols outlined in BLM Manual H-4180-1, "Rangeland Health Standards", were used to arrive at conclusions about range health conditions.

Selection of Areas Used for Assessment Determinations

Jordan Resource Area ID Team members assessed upland and riparian health based on predominant conditions observed within particular vegetation types. Upland and riparian areas isolated in size or occurrence that were not meeting standards, such as those typically found immediately around livestock watering facilities, were not considered to be indicative of overall range health status for the pasture. Instead, range health assessments (as well as trend plots and other long-term monitoring sites) were based on areas at reasonable distances from livestock water in order to avoid localized heavy-use or ungrazed areas that do not accurately reflect the overall impacts of grazing. Assessment determinations were made after observing as much of the area as possible by foot, vehicle, and aircraft.

In BLM's response to public comments concerning revised range regulations, the selection of representative areas for range health assessment was addressed:

> "The Department [of Interior] recognizes that rangelands within a given area may be in functional, healthy conditions *even though individual isolated sites do not meet the standards or guidelines*. However, the Department believes that general failure to meet the benchmarks *across a broader area*, such as a typical BLM grazing pasture or BLM allotment, would be reliable evidence that the area is not in healthy, functional condition" [italics added] (43 CFR, Fundamentals of Rangeland Health and Standards and Guidelines for Grazing Administration, Vol. 60, No. 35, Wednesday, February 22, 1995).

Sites selected for upland assessments are shown on Map 5, Rangeland Health Upland Assessment Sites.

Assessment Methods for Upland Sites

Existing Survey Data and Reference Areas

Current Ecological Site Inventory (ESI) data are not available for this assessment area. Ecological site potential determinations were based on relatively pristine "reference" sites (referred to as "baseline" in BLM Manual H-4180-1) that have not been substantially impacted by human activities. Sites selected as baseline or reference in LCGMA are listed in Table 1, Reference Sites Used for Rangeland Health Assessments. The ID team used the best available range survey data, which were collected during the late 1970's (Oregon Automated Ecological Site Information System [OAESIS]), to assure that representative plant communities were visited and assessed in each allotment pasture. OAESIS data were based on Natural Resource Conservation Service (NRCS) standards for range site descriptions. Statewide Order IV soil surveys from 1969 were also used to help interpret observed conditions.

Baseline areas were relatively common in many pastures due to historical grazing use patterns and seasons of grazing use. In other words, predominantly conservative stocking levels, grazing use taken after the critical growing season, limited water source availability to distribute livestock use, and large pasture sizes all contributed towards the presence of reference quality areas in LCGMA. In some pastures, quality baseline areas were even found at the edge of existing reservoirs. All baseline areas supported a diverse composition of native grasses, forbs, and shrubs.

Assessing Plant Cover, Plant Diversity, and Wildlife Habitat

The ID team determined percent plant cover for assessment sites by using three BLM approved methods: line intercept, step-point transects, and ocular estimates ("Sampling Vegetation Attributes", USDI, BLM Tech. Ref. 1734-4, 1996). Initially, the line intercept method alone was used to determine percent cover of vegetation at each assessment site. Due to time constraints, the ID team chose to sample rangeland with a combination of 500 point step-point transects and ocular estimates. Ocular estimates were made on the basis of experience gained from conducting step-point and line intercept measures. In other words, actual detailed measurements were used as the method of "calibration" for ocular estimates.

For each assessment site, vegetation data and observations concerning the site's physical integrity were recorded on worksheets derived from "Interpreting Indicators of Rangeland Health", USDI, BLM Tech. Ref. 1734-6 (2000). These worksheets included *Rangeland Health Evaluation Summary, Ground Cover, Species Dominance,* and *Degree of Departure from Ecological Site Description, and/or Ecological Reference Area(s).* Copies of worksheets with data for each LCGMA assessment site are included on the compact disk provided with this document.

In order to assess suitability of upland range for terrestrial wildlife values, BLM also measured vegetation attributes that affect wildlife security and production. These attributes included the heights of sagebrush overstories and bluebunch wheatgrass understories, and the distribution of sagebrush canopy classes as described in the SEORMP (Table 9, Shrub Canopy Cover Classes). In addition, about 180 digital images of upland habitat were taken, a subset of which were used as a representative *Landscape Appearance Photo Series* (Appendix J, Photos). See Appendix G, Upland Wildlife Habitat Field Measurements, for more detailed descriptions of methods.

Long-Term Rangeland Trend Studies

Long term upland trend studies, consisting of 100 foot line intercept transects and 3' by 3' photo plots, were re-read as part of the assessment process. Over the last decades, these studies have been established

in Vale District in order to determine whether key grass species most influenced by grazing were showing evidence of basal cover increases (upward trend), decreases (downward trend), or non-significant change (not apparent trend). These methods conform to current interagency monitoring guidance ("Sampling Vegetation Attributes", USDI, BLM Tech. Ref. 1734-4, 1996).

Upland trend determinations are based on several factors that influence vigor and reproduction of grasses. These factors include precipitation timing and amount; patterns of livestock use; permittee records submitted as actual use (numbers of livestock and number of days livestock actually grazed in a pasture); annual grazing utilization surveys; changes visible from trend plot photos; changes in plant cover indicated in 3' X 3' trend plots; changes in plant cover under line intercept transects; impacts from plant disease or insects; and professional judgment. Because so many factors influence plant health, professional judgment is used to take all these considerations into account and arrive at a final conclusion.

Riparian Trend for Proper Functioning Condition (PFC) Assessments
Riparian trend is determined by comparing the present situation with previous photos, trend studies, inventories, and any other documentation or personal knowledge existing prior to the PFC assessment. If information prior to the assessment is lacking, indicators of "apparent trend" may be deduced during the assessment process. Presence or absence of riparian/wetland species that correlate with soil moisture characteristics can be especially useful. However, care must be taken to relate these indicators to recent climatic conditions as well as management. If insufficient evidence exists to allow recognition of a trend toward PFC (upward) or away from PFC (downward), then trend is considered to be "not apparent" (BLM, TR 1737-15, 1998, p20).

Water Quality Assessment
The quality of the water yielded by a watershed is determined by physical and chemical properties of the geology and soils unique to the watershed, the prevailing climate and weather patterns, current resource conditions, current land uses, and quality of management of those uses. Assessments of upland rangelands for Rangeland Health Standards 1 and 3, and riparian area assessments for Standard 2, have direct relevance to evaluation of Standard 4 (Water Quality). For streams that lack specific water quality data, the Interdisciplinary Team evaluated pertinent data from all sources available, including information gathered for Standards 1, 2, and 3, to make a final determination for the assessment of the water quality standard.

I. Supporting Documents

Documents used as reference material for this assessment are shown in References. In addition, some of these documents are posted on the Vale District internet web site:

http://www.or.blm.gov/Vale/Range/range-index.htm